



Fortinet Security Fabric - Upgrade Guide

Version 5.6.8

Introduction

This guide describes how to upgrade Security Fabric. A Security Fabric spans across an entire network, using FortiTelemetry to link different security sensors and tools together to collect, coordinate, and respond to malicious behavior anywhere it occurs on your network in real time. A Security Fabric can be used to coordinate the behavior of different Fortinet products in your network, including FortiGate, FortiAnalyzer, FortiManager, FortiClient, FortiSandbox, FortiAP, FortiSwitch, and FortiClient Enterprise Management Server (EMS).

You should use this upgrade guide when you are using two or more products that are used for Security Fabric. This guide describes how to upgrade the products in the correct sequence. For details about upgrading each product, see the following documents:

- *FortiAnalyzer Upgrade Guide*
- *FortiManager Upgrade Guide*
- *FortiClient Release Notes*
- *FortiClient EMS Release Notes*
- *FortiSwitch Release Notes*
- *FortiGate Release Notes*
- *FortiAP Release Notes*



In FortiOS 5.6.0 and later, the *Cooperative Security Fabric* feature was renamed to *Security Fabric*. In addition, the Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit.

This guide describes the following upgrade scenarios:

- [Upgrade from FortiOS 5.4.2 and later to 5.6.8 on page 4](#)
- [Upgrade from FortiOS 5.6.0 to 5.6.8 on page 9](#)

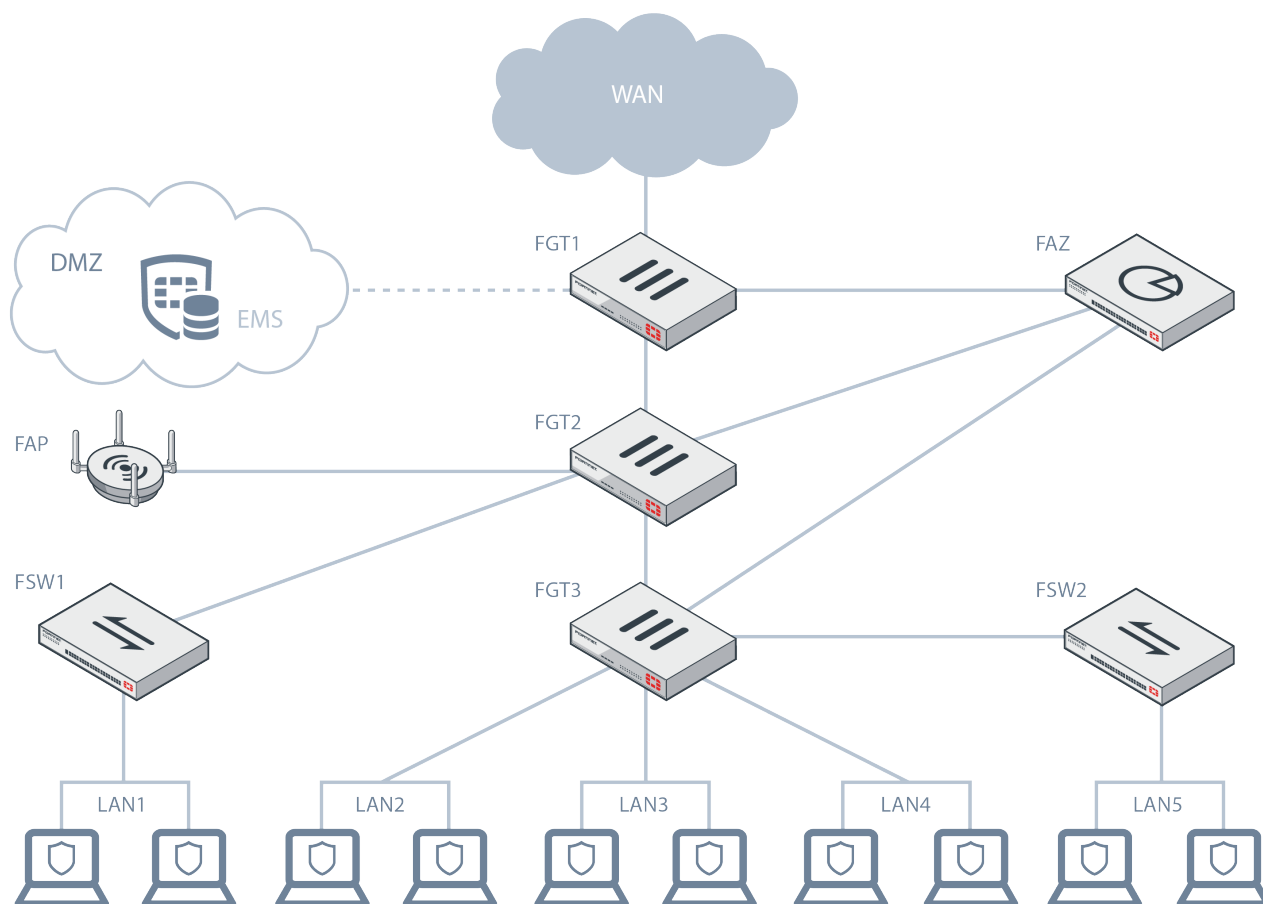


You should perform this upgrade procedure during a maintenance window because the procedure affects network traffic flow.



In FortiLink mode, you must manually create a firewall policy to allow RADIUS traffic for 802.1x authentication from the FortiSwitch (for example, from the FortiLink interface) to the RADIUS server through the FortiGate.

Security Fabric topology



Upgrade from FortiOS 5.4.2 and later to 5.6.8

This section describes how to upgrade the products used for Security Fabric in the correct order when upgrading from FortiOS 5.4.2 and later to 5.6.8. It includes a summary of the procedure followed by a detailed procedure.

Summary (FortiOS 5.4.2 to 5.6.8)

To upgrade Security Fabric (summary):

1. In FortiOS 5.4.2 or later, disable FortiClient enforcement (FortiTelemetry).
FortiOS 5.6.0 and later either blocks network access for non-compliant endpoints or displays a warning portal for non-compliant endpoints. It is recommended to temporarily disable FortiClient enforcement to let you upgrade endpoints without losing network access.
2. Upgrade FortiClient EMS to 1.2.0 or later.
FortiClient 5.6.0 and later requires FortiClient EMS 1.2.0 or later.
3. Upgrade all endpoints to FortiClient 5.6.0 or later.
FortiClient enforcement in FortiOS 5.6.0 requires FortiClient 5.6.0 or later.
4. Upgrade the OS version for FortiSwitch in managed mode to 3.5.2 or later.
It is recommended to upgrade to FortiSwitch 3.5.3 or later to access all of the new features.
5. Upgrade the OS version for the FortiAnalyzer units in the Security Fabric topology to FortiAnalyzer 5.6.0 or later.
The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit. Whether logging to FortiAnalyzer is enabled in FortiOS 5.4.2 and later before you upgrade affects how you upgrade the firmware for FortiAnalyzer units.
If FortiOS 5.4.2 or later has logging to FortiAnalyzer enabled, upgrade the FortiAnalyzer units to 5.6.0 or later.
If FortiOS 5.4.2 or later has logging to FortiAnalyzer disabled, disable Security Fabric on all FortiGate units in the Security Fabric group before you upgrade the firmware for FortiAnalyzer to 5.6.0 or later.
6. If you are using FortiManager, upgrade the OS version for the FortiManager units to FortiManager 5.6.0 or later. Otherwise skip this step.
7. Upgrade firmware for all FortiGate units in the Security Fabric topology to FortiOS 5.6.8.
The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit. If FortiOS 5.4.2 or later has logging to FortiAnalyzer disabled, disable Security Fabric on all FortiGate units in the Security Fabric group before you upgrade the firmware to 5.6.8.
8. If logging to FortiAnalyzer was enabled in Security Fabric groups before the upgrade, you must complete the logging configuration for each Security Fabric group by registering all FortiGate units in each Security Fabric group with the primary FortiAnalyzer in each Security Fabric group and enabling communication between the units.
9. Upgrade the OS version for FortiAP to 5.6.0 or later.
FortiOS 5.6 supports FortiAP 5.4.x. However, it is recommended to upgrade to FortiAP 5.6.0 to access all of the new features.
10. Verify that the endpoints for which you want to enable enforcement have been upgraded to FortiClient 5.6.0 or later.
11. In FortiOS 5.6.8, enable FortiClient enforcement (FortiTelemetry).

Detailed procedure (5.4.2 to 5.6.8)

To upgrade Security Fabric (detailed procedure):

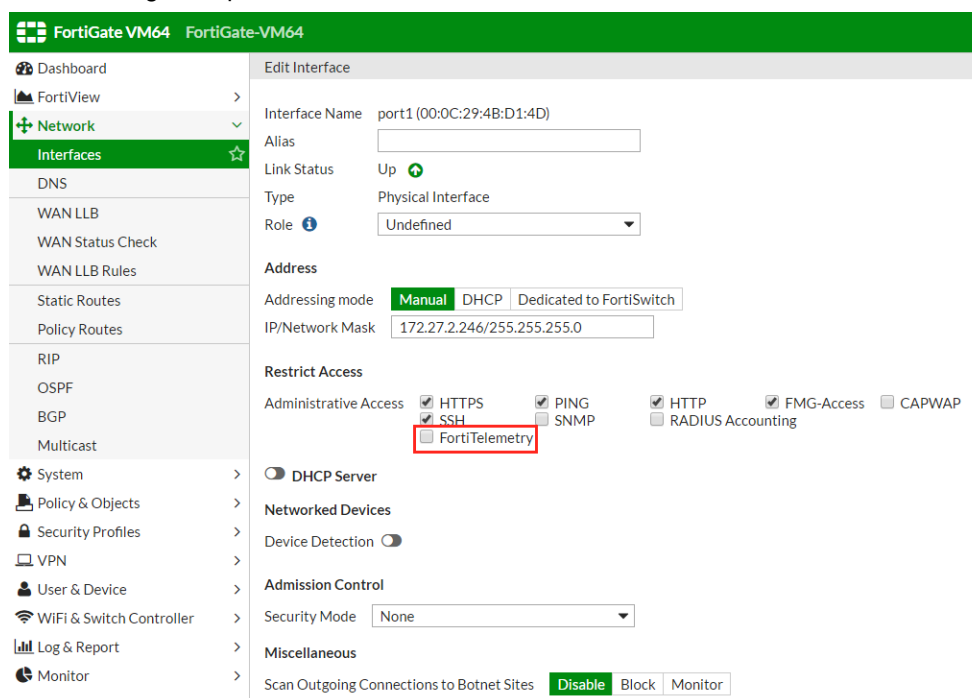
1. In FortiOS 5.4.2 or later, temporarily disable FortiClient enforcement (FortiTelemetry).

FortiOS 5.6.0 either blocks network access for non-compliant endpoints or displays a warning portal for non-compliant endpoints. It is recommended to temporarily disable FortiClient enforcement to let you upgrade endpoints without losing network access.

You will enable FortiClient enforcement again at the end of the upgrade procedure.

- a. Go to *Network > Interfaces*, and edit the interface used for FortiClient enforcement.
- b. In the *Administrative Access* area, disable *FortiTelemetry*.
- c. Click *OK*.

The following example is for FortiOS 5.4.4.



2. Upgrade FortiClient EMS to FortiClient EMS 1.2 or later by running the installer file for FortiClient EMS 1.2 or later. For details, see the *FortiClient EMS Release Notes*.
3. Upgrade all endpoints to FortiClient 5.6.0 or later.

You can upgrade FortiClient by using FortiClient EMS, an Active Directory server, or another method, such as having endpoint users download and install the new version of FortiClient. For information about installing FortiClient, see the *FortiClient Administration Guide*.

The upgrade requires the endpoint users to reboot their computers. No other input is needed from endpoint users for the FortiClient upgrade.

If you're using FortiClient EMS to upgrade FortiClient, you can add a FortiClient installer to EMS, and then select the FortiClient installer in the profile that is assigned to the endpoints. The FortiClient installer is downloaded to the endpoints with the next FortiTelemetry communication. It is recommended to install FortiClient to one group of endpoint users at a time. For details, see the *FortiClient EMS Administration Guide*.

4. Upgrade the OS version for FortiSwitch in managed mode to 3.5.2 or later.

It is recommended to upgrade to FortiSwitch 3.5.3 or later to access all of the new features.

- a. Go to *WiFi & Switch Controller > Managed FortiSwitch*, and click *Upgrade* beside *FortiSwitch OS Version*.

5. Upgrade the OS version for the FortiAnalyzer units in the Security Fabric topology to FortiAnalyzer 5.6.0 or later.

The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit. Whether logging to FortiAnalyzer is enabled in FortiOS before you upgrade affects how you upgrade the firmware for FortiAnalyzer units.

If FortiOS 5.4.2 or later has logging to FortiAnalyzer enabled, upgrade the firmware for FortiAnalyzer units to 5.6.0 or later.

If FortiOS 5.4.2 or later has logging to FortiAnalyzer disabled:

- a. Disable Security Fabric on all FortiGate units in the Security Fabric group by using FortiOS.
- b. Upgrade the firmware for FortiAnalyzer units to 5.6.0 or later.

6. If you are using FortiManager, upgrade the OS version for the FortiManager units to FortiManager 5.6.0 or later. Otherwise skip this step.

7. Upgrade firmware for all FortiGate units in the Security Fabric topology to FortiOS 5.6.1 or later.

The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit.



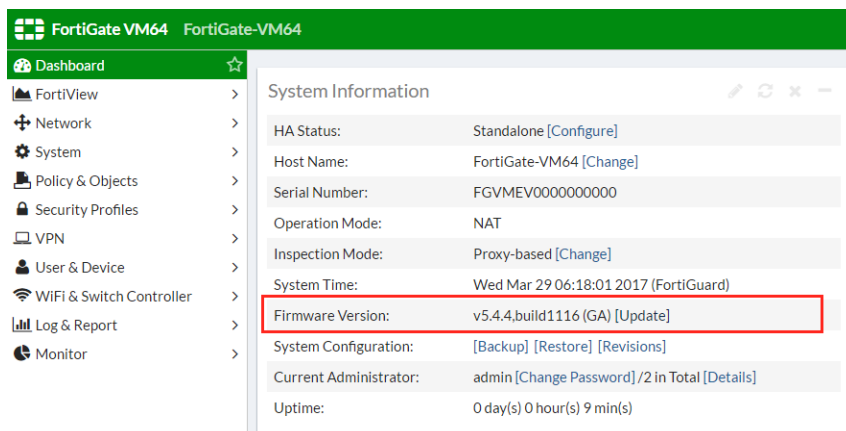
If you are upgrading from FortiOS 5.4.2 or later and FortiOS 5.4.2 has logging to FortiAnalyzer disabled, disable Security Fabric on all FortiGate units in the Security Fabric group before you upgrade the firmware to 5.6.0 or later.

It is recommended to upgrade the root FortiGate before upgrading the FortiGate devices that are connected to the root FortiGate.

- a. In FortiOS 5.6.0, go to *System > Firmware*, and click *Upload Firmware*.
- b. Select the firmware, and click *Open*.

For details, see the *FortiGate Release Notes*.

The following example is for FortiOS 5.4.4.



8. If logging to FortiAnalyzer was enabled in Security Fabric groups before the upgrade, you must complete the logging configuration for each Security Fabric group by registering all FortiGate units in each Security Fabric group with the primary FortiAnalyzer in each Security Fabric group and enabling communication between the units. After both FortiAnalyzer and FortiOS are upgraded to 5.6.0 or later, all FortiGate units in each Security Fabric group must send logs to the primary FortiAnalyzer unit in the Security Fabric group. The primary FortiAnalyzer unit

is defined as the unit to which the root FortiGate unit is sending logs. The primary FortiAnalyzer unit displays all FortiGate units in the Security Fabric group in Device Manager. Any previously registered FortiGate units display as registered devices in the FortiAnalyzer Device Manager. Any additional FortiGate units from the Security Fabric group display as unregistered devices in the FortiAnalyzer Device Manager. Complete the following steps to register all devices and enable communication:

- a. In FortiAnalyzer *Device Manager*, add all unregistered FortiGate units to the topology by selecting each unregistered device and clicking the *Add Device* button.
 - b. In FortiAnalyzer *Device Manager*, edit each newly registered FortiGate unit to add the username and password for the FortiGate unit. This enables communication of Security Fabric information between the FortiGate units and the FortiAnalyzer unit.
 - c. Remove any disconnected FortiAnalyzer units from the Security Fabric group.
Logs from disconnected FortiAnalyzer units are not automatically moved to the primary FortiAnalyzer unit in the Security Fabric group.
9. Upgrade the OS version for FortiAP, FortiAP-S, and FortiAP-W2 units to 5.6.0 or later by using FortiOS. FortiOS 5.6.0 and later supports FortiAP 5.4.x. However, it is recommended to upgrade to FortiAP 5.6.0 or later to access all of the new features.
 - a. In FortiOS, ensure that all FortiAP units have reconnected after the FortiOS upgrade and have an *Online* status.
 - b. Go to *WiFi & Switch Controller > Managed FortiAPs > Firmware*, and click *Upgrade*.
For details, see the *FortiAP Release Notes*.
10. In FortiOS 5.6.1 or later, use the FortiClient Monitor to verify that the endpoints for which you want to enable enforcement have been upgraded to FortiClient 5.6.0 or later.
11. In FortiOS 5.6.1 or later, enable FortiClient enforcement (FortiTelemetry).
 - a. Go to *Network > Interfaces*, and edit the interface(s) used for FortiClient enforcement.
 - b. In the *Administrative Access* area, enable *FortiTelemetry*.
 - c. In the *Admission Control* area, enable *Enforce FortiClient Compliance Check*.

d. Click **OK**.

FortiGate VM64 FGVM160000091728

Global

Dashboard

Security Fabric

Network

Interfaces

DNS

System

Log & Report

Edit Interface

Interface Name port1 (00:0C:29:7D:35:DC)

Alias

Link Status Up

Type Physical Interface

Virtual Domain root

Role Undefined

Address

Addressing mode Manual DHCP Dedicated to FortiSwitch

IP/Network Mask 172.18.26.149/255.255.255.0

Administrative Access

IPv4

☒ HTTPS ☒ HTTP ☒ PING ☒ FMG-Access ☒ CAPWAP

☒ SSH ☒ SNMP ☒ TELNET ☒ FTM

☒ RADIUS Accounting ☒ Probe Response

☒ FortiTelemetry

DHCP Server

Networked Devices

Device Detection

Admission Control

Security Mode None

Enforce FortiClient Compliance Check

Exempt Sources

Exempt Destinations/Services

Upgrade from FortiOS 5.6.0 to 5.6.8

This section describes how to upgrade the products used for Security Fabric in the correct order when upgrading from FortiOS 5.6.0 and later to 5.6.8. It includes a summary of the procedure followed by a detailed procedure.

Summary (5.6.0 to 5.6.8)

To upgrade Security Fabric (summary):

1. In FortiOS, disable FortiClient enforcement (FortiTelemetry).
FortiOS 5.6.0 and later either blocks network access for non-compliant endpoints or displays a warning portal for non-compliant endpoints. It is recommended to temporarily disable FortiClient enforcement to let you upgrade endpoints without losing network access.
2. Upgrade FortiClient EMS to 1.2.0 or later.
FortiClient 5.6.0 and later requires FortiClient EMS 1.2.0 or later.
3. Upgrade all endpoints to FortiClient 5.6.0 or later.
FortiClient enforcement in FortiOS 5.6.0 requires FortiClient 5.6.0 or later.
4. Upgrade the OS version for FortiSwitch in managed mode to 3.5.2 or later.
It is recommended to upgrade to FortiSwitch 3.5.3 or later to access all of the new features.
5. Upgrade the OS version for the FortiAnalyzer units in the Security Fabric topology to FortiAnalyzer 5.6.0 or later.
The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit.
6. If you are using FortiManager, upgrade the OS version for the FortiManager units to FortiManager 5.6.0 or later.
Otherwise skip this step.
7. Upgrade firmware for all FortiGate units in the Security Fabric topology to FortiOS 5.6.8.
8. Upgrade the OS version for FortiAP to 5.6.0 or later.
FortiOS 5.6 supports FortiAP 5.4.x. However, it is recommended to upgrade to FortiAP 5.6.0 to access all of the new features.
9. Verify that the endpoints for which you want to enable enforcement have been upgraded to FortiClient 5.6.0 or later.
10. In FortiOS 5.6.8, enable FortiClient enforcement (FortiTelemetry).

Detailed procedure (5.6.0 to 5.6.8)

To upgrade Security Fabric (detailed procedure):

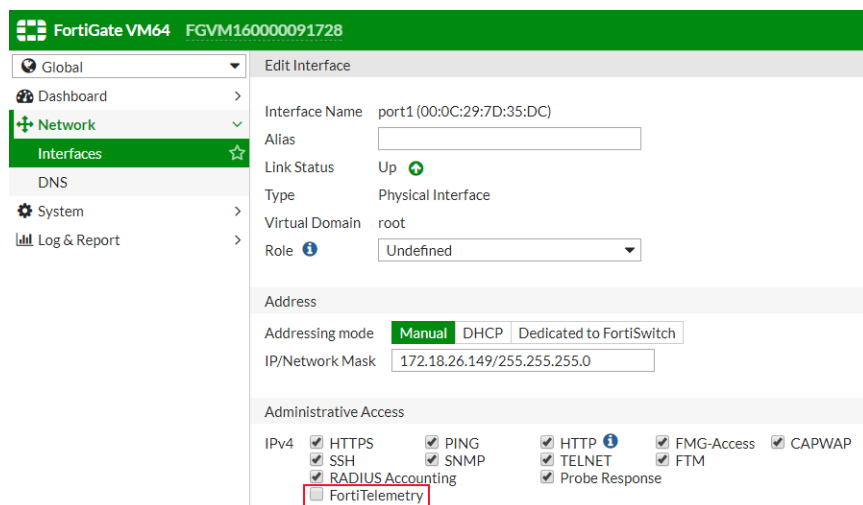
1. In FortiOS 5.6.0 or later, temporarily disable FortiClient enforcement (FortiTelemetry).
FortiOS 5.6.0 and later either blocks network access for non-compliant endpoints or displays a warning portal for non-compliant endpoints. It is recommended to temporarily disable FortiClient enforcement to let you upgrade

endpoints without losing network access.

You will enable FortiClient enforcement again at the end of the upgrade procedure.

- a. Go to *Network > Interfaces*, and edit the interface used for FortiClient enforcement.
- b. In the *Administrative Access* area, disable *FortiTelemetry*.
- c. Click *OK*.

The following example is for FortiOS 5.6.0.



2. Upgrade FortiClient EMS to FortiClient EMS 1.2 or later by running the installer file for FortiClient EMS 1.2 or later. For details, see the *FortiClient EMS Release Notes*.

3. Upgrade all endpoints to FortiClient 5.6.0 or later.

You can upgrade FortiClient by using FortiClient EMS, an Active Directory server, or another method, such as having endpoint users download and install the new version of FortiClient. For information about installing FortiClient, see the *FortiClient Administration Guide*.

The upgrade requires the endpoint users to reboot their computers. No other input is needed from endpoint users for the FortiClient upgrade.

If you're using FortiClient EMS to upgrade FortiClient, you can add a FortiClient installer to EMS, and then select the FortiClient installer in the profile that is assigned to the endpoints. The FortiClient installer is downloaded to the endpoints with the next FortiTelemetry communication. It is recommended to install FortiClient to one group of endpoint users at a time. For details, see the *FortiClient EMS Administration Guide*.

4. Upgrade the OS version for FortiSwitch in managed mode to 3.5.2 or later.

It is recommended to upgrade to FortiSwitch 3.5.3 or later to access all of the new features.

- a. Go to *WiFi & Switch Controller > Managed FortiSwitch*, and click *Upgrade* beside *FortiSwitch OS Version*.

5. Upgrade the OS version for the FortiAnalyzer units in the Security Fabric topology to FortiAnalyzer 5.6.0 or later. The Security Fabric feature in FortiOS 5.6.0 and later requires that you have a FortiAnalyzer unit and enable logging to the FortiAnalyzer unit.

6. If you are using FortiManager, upgrade the OS version for the FortiManager units to FortiManager 5.6.0 or later. Otherwise skip this step.

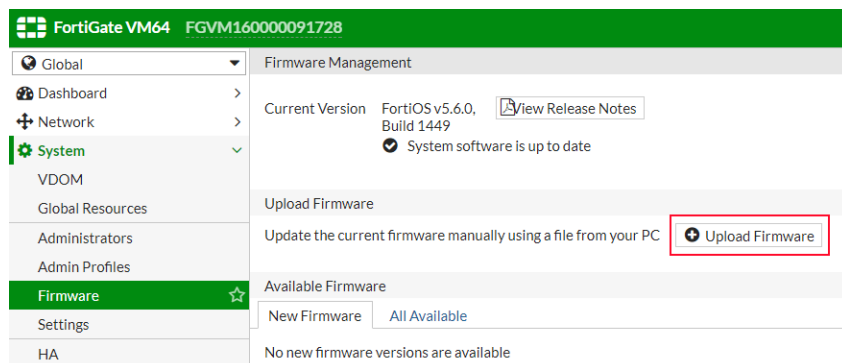
7. Upgrade firmware for all FortiGate units in the Security Fabric topology to FortiOS 5.6.8.

It is recommended to upgrade the root FortiGate before upgrading the FortiGate devices that are connected to the root FortiGate.

- a. In FortiOS 5.6.0, go to *System > Firmware*, and click *Upload Firmware*.
- b. Select the firmware, and click *Open*.

For details, see the *FortiGate Release Notes*.

The following example is for FortiOS 5.6.0.



8. Upgrade the OS version for FortiAP, FortiAP-S, and FortiAP-W2 units to 5.6.0 or later by using FortiOS. FortiOS 5.6.0 and later supports FortiAP 5.4.x. However, it is recommended to upgrade to FortiAP 5.6.0 or later to access all of the new features.
 - a. In FortiOS, ensure that all FortiAP units have reconnected after the FortiOS upgrade and have an *Online* status.
 - b. Go to *WiFi & Switch Controller > Managed FortiAPs > Firmware*, and click *Upgrade*.
For details, see the *FortiAP Release Notes*.
9. In FortiOS 5.6.8, use the FortiClient Monitor to verify that the endpoints for which you want to enable enforcement have been upgraded to FortiClient 5.6.0 or later.
10. In FortiOS 5.6.8, enable FortiClient enforcement (FortiTelemetry).
 - a. Go to *Network > Interfaces*, and edit the interface(s) used for FortiClient enforcement.
 - b. In the *Administrative Access* area, enable *FortiTelemetry*.
 - c. In the *Admission Control* area, enable *Enforce FortiClient Compliance Check*.

d. Click **OK**.

FortiGate VM64 FGVM160000091728

Global

Dashboard

Security Fabric

Network

Interfaces

DNS

System

Log & Report

Edit Interface

Interface Name port1 (00:0C:29:7D:35:DC)

Alias

Link Status Up

Type Physical Interface

Virtual Domain root

Role Undefined

Address

Addressing mode Manual DHCP Dedicated to FortiSwitch

IP/Network Mask 172.18.26.149/255.255.255.0

Administrative Access

IPv4

☒ HTTPS ☒ HTTP ☒ PING ☒ FMG-Access ☒ CAPWAP

☒ SSH ☒ SNMP ☒ TELNET ☒ FTM

☒ RADIUS Accounting ☒ Probe Response

☒ FortiTelemetry

DHCP Server

Networked Devices

Device Detection

Admission Control

Security Mode None

Enforce FortiClient Compliance Check

Exempt Sources

Exempt Destinations/Services



Copyright© 2019 Fortinet, Inc. All rights reserved. Fortinet®, FortiGate®, FortiCare® and FortiGuard®, and certain other marks are registered trademarks of Fortinet, Inc., in the U.S. and other jurisdictions, and other Fortinet names herein may also be registered and/or common law trademarks of Fortinet. All other product or company names may be trademarks of their respective owners. Performance and other metrics contained herein were attained in internal lab tests under ideal conditions, and actual performance and other results may vary. Network variables, different network environments and other conditions may affect performance results. Nothing herein represents any binding commitment by Fortinet, and Fortinet disclaims all warranties, whether express or implied, except to the extent Fortinet enters a binding written contract, signed by Fortinet's General Counsel, with a purchaser that expressly warrants that the identified product will perform according to certain expressly-identified performance metrics and, in such event, only the specific performance metrics expressly identified in such binding written contract shall be binding on Fortinet. For absolute clarity, any such warranty will be limited to performance in the same ideal conditions as in Fortinet's internal lab tests. In no event does Fortinet make any commitment related to future deliverables, features or development, and circumstances may change such that any forward-looking statements herein are not accurate. Fortinet disclaims in full any covenants, representations, and guarantees pursuant hereto, whether express or implied. Fortinet reserves the right to change, modify, transfer, or otherwise revise this publication without notice, and the most current version of the publication shall be applicable.